TITLE OF INVENTION

Ladder Safe Base And Method For Utilization Thereof

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not Applicable

BACKGROUND OF THE INVENTION

1. Field of Invention

[0003] This invention pertains to ladder securing devices. More particularly, this invention pertains to an adjustable and removable ladder safe base and a method for utilization thereof.

2. Description of the Related Art

[0004] Ladder stabilizing devices are known in the art and typically provide attaching arms and extension members connecting from one or more rungs of a ladder, with each extension member separately attached to a portion of a wall, to a tree, or a pole to allow the base and upper end of the ladder to be positioned securely proximal of the wall, tree, or pole. Prior ladder stabilizing devices include ladder rung attachments extended laterally from the ladder in order to provide a connection to a wall or nearby support structure for improved stability of the ladder base against a supporting surface that can pose a slipping or "kick-out"

hazard for the ladder bases when set on the supporting surface (i.e. wood, asphalt or concrete). Prior ladder stabilizing devices also include one or more base attachments referred to as "feet" or "shoes" that are positioned on a supporting surface in order to add additional surface area to each ladder base end. The laterally extended "feet" or "shoes" must be separately attached to each respective ladder base end before the ladder is positioned and extended from the ground to the side supporting surface such as a wall or a pole. Additional prior devices include curved or angled clamps that are separately attached to each ladder rail for extension to a nearby stair rail or a platform support structure.

[0005] Typical non-self-supporting ladders are commonly referred to as leaning ladders, side rails have a rectangular or a "I beam" cross-section. Typical prior attaching and stabilizing members are permanently connected to the ladder base ends by enclosing each rail base end with tubular members that have flat end structures in order to secure each tubular member and respective ladder base ends from sliding along the supporting surface during use of the ladder. A ladder leveler including one or two tubes typically must be inserted over respective base ends of both ladder side rails before the ladder base end is positioned against the supporting surface. Therefore, when the ladder base is moved to a second position on the supporting surface having a slope, or a stepped change in elevation, and/or a different surface composition (i.e. from packed soil to concrete), one or both base end tubular members must be changed to exchange with appropriate tubular member having alternative lengths or having an adequate skid-resistant pad thereon. The changing process is time-consuming for the ladder user, requires taking the ladder down from its angled position between the supporting surface

and the wall or pole surface, and requires the ladder user to maintain a storage container for additional parts compatible with the various slopes and/or surface composition of the supporting surfaces on which the ladder is positioned.

[0006] A ladder base is needed for securing base ends of a ladder between restraining members that are readily adjustable in a width dimension to accommodate any of a plurality of ladder widths. Further, a ladder base is needed for providing "kick-out" protection for ladder base ends positioned on any of a plurality of uneven and/or unstable supporting surfaces. A method for utilization is also needed to provide for steps for adjusting the relative heights of restraining members releasably attachable to ladder base ends to provide for stabile ladder positioning when moved between a first surface to a second surface having different slopes, without requiring detachment of either restraining member from respective ladder base ends during repositioning of the ladder.

BRIEF SUMMARY OF THE INVENTION

[0007] According to one embodiment of the present invention, a ladder safe base is provided for stabilizing both base ends of a ladder disposed in angled contact against any of a plurality of supporting surfaces having uneven and/or unstable surfaces. The ladder safe base provides stability of the ladder base ends regardless of the slope or stability of the supporting surface, thereby improving the safety of load-bearing activities on the ladder. The ladder safe base includes a coupling member having first and second receiving members adjacently disposed a spaced apart distance for receipt thereupon of the ladder base ends. Each first and second receiving member includes an opening therein of an adequate width

bounded by respective inner and outer side walls for accommodation therein of the one of the ladder base ends. The coupling member includes a first and second cross-member extended inwardly from respective inner side walls of each receiving member. The first and second cross-members are aligned axially and are slidably engaged against each other to position the first and second receiving member a spaced apart distance to retain the ladder base ends within respective openings in each receiving member.

[0008] The stabilizing cross-members extend between the inner side walls of first and second receiving members, with the cross- members being slidably adjustable to maintain the receiving members a sufficient spaced apart distance to accommodate any of a plurality of ladder base widths. Upon positioning the ladder base end within the respective opening in the first and second receiving members, the stabilizing member is secured by a securing means for releasably locking the first cross-member in engagement with the second cross-member to maintain the spaced apart distance between each respective first and second receiving member, thereby securing the ladder base ends from moving laterally relative to the supporting surface during load-bearing activity on the ladder.

[0009] The ladder safe base further includes first and second outer side sleeves positioned in generally vertical orientation against respective outer side walls of first and second receiving members. Each first and second outer side sleeve includes a lengthwise interior channel in which a fixation member is slidably insertable. A contacting end of the fixation member is inserted a sufficient depth into each either outer side sleeve until the contacting end extends to a position against or into the supporting surface. A second fixation member is

slidably insertable into the second of the outer sleeves for further securing of both receiving members relative to the supporting surface. Each fixation member is vertically adjustable and secured at an insertion depth relative to the outer side sleeve in which it is slidably inserted, thereby allowing attainment of a selected height above the supporting surface for either first or second outer sleeve and respective receiving members in order to provide a level ladder safe base when positioned on an uneven supporting surface. With one or two fixation members positioned to restrain one or both first and second receiving members, the coupling member and cross-members provide lateral stabilization for ladder base ends while protecting from "kick-out' of a ladder base positioned on an unstable supporting surface.

[0010] A method for utilization of a ladder safe base is provided herein, for stabilizing a ladder base end disposed in angled orientation against a supporting surface that is uneven and/or unstable. The method includes a step of providing a coupling member having first and second receiving members interconnected by a stabilizing cross-member that is slidably adjustable in a width dimension. A step of positioning includes adjusting the width between the first and second receiving members to accommodate the ladder base ends upon respective receiving members. A step of leveling includes inserting and extending at least one fixation member through one of two sleeve brackets attached to each receiving member.

[0011] The method further includes a step of repositioning the coupling member and ladder by moving the receiving members attached to the ladder base ends from a first location to a second location when the ladder is not utilized in load-bearing activities. The ladder safe base is secured upon repositioning by

leveling the first receiving member relative to the second receiving member at the second location on a supporting surface. The ladder base ends are leveled and secured relative to the supporting surface at the second location and are secured from moving relative to each other by utilizing the ladder safe base.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0012] The above-mentioned features of the invention will become more clearly understood from the following detailed description of the invention read together with the drawings in which:

Figure 1 is a perspective view of a ladder safe base of the present invention including a coupling member for receiving and securing a ladder base against a supporting surface;

Figure 2 is a side view of a first receiving member of the coupling member of Figure 1, illustrating a fixation means extended through a first side sleeve for contact against a generally level supporting surface;

Figure 3 is a perspective view of Figure 1, illustrating an alternative fixation means extended through a first side sleeve for insertion into an unstable supporting surface;

Figure 4A is a partial front perspective view of stabilizing cross-members and securing means illustrating an inner cross-member slidably inserted partially into the outer cross-member with a spaced apart distance between first and second receiving member;

Figure 4B is a section along 4B-4B of Figure 4A, illustrating the components of a securing means slidably positioned inside first and second slots of the stabilizing cross-members;

Figure 5A is an exploded outer side view of the first receiving member and first sleeve of Figure 1, illustrating a plurality of elements utilized for positioning and securing the first receiving member on a generally level supporting surface;

Figure 5B is an exploded outer side view of the second receiving member and second sleeve of Figure 3, illustrating a plurality of elements utilized for insertion of a fixation means into an unstable supporting surface;

Figure 6 is a back perspective view of Figure 1, illustrating the coupling member having ladder base ends therein with a first fixation means positioned at a higher elevation than the second fixation means;

Figure 7 is front perspective view of a ladder base secured within the coupling member and having a pair of fixation members and a pair of retaining devices for positioning the coupling member on a level supporting surface;

Figure 8 is a front perspective view of a ladder base secured within the coupling member and having a pair of fixation members inserted at different heights into an uneven and unstable supporting surface;

Figure 9 is a front view of the stabilizing cross-member extended an adjustable distance between first and second receiving members;

Figure 10 is a front perspective view of an alternative embodiment of Figure

1, illustrating first and second receiving members having partial interior walls with a stabilizing cross-member between rear portions of each partial interior wall;

Figure 11 is a front perspective view of an alternative embodiment of Figure 1, illustrating first and second receiving members have minimally sized interior wall segments allowing positioning of a plurality of widths of ladder base ends inboard of the first and second receiving members; and

Figure 12 is a front perspective view of an alternative embodiment of Figure 1, illustrating first and second receiving members including a pair of inner walls and lacking outer side walls for positioning wide spaced apart ladder base ends outboards of the first and second receiving members.

DETAILED DESCRIPTION OF THE INVENTION

[0013] A ladder safe base **10** is disclosed that is readily attached to and released from a base of a ladder **20** for safely securing the ladder base proximal of a supporting surface **80** having an uneven surface and/or an unstable surface. A majority of self-supporting upright ladders and ladders designed to lean against an upright surface, include at least one pair of side rails **22**, **24** ending in base ends **26**, **28** having respective swiveling base pads **26'**, **28'** thereon which are swivelled for positioning against a supporting surface **80**. When the supporting surface is uneven and/or unstable, a typical two side rail ladder **20** may not provide a secure footing to support significant load-bearing activities on the ladder. Typical supporting surfaces posing unstable surfaces include an earthen surface covered with vegetation, gravel, or other loose materials, or a roof surface covered with asphalt shingles or smooth tile shingles. Additional supporting surfaces posing

difficult ladder positioning problems include concrete or wooden steps, metal or wood scaffolding platforms, and indoor surfaces covered with loose carpet or floor tiles having intermittently uneven and smooth surfaces.

[0014] The ladder safe base **10** is illustrated in Figure 1 and includes a coupling member **12** having a pair of parallel oriented and spaced apart receiving members **30**, **40** in which respective ladder base ends **26**, **28** are removably positioned. The coupling member **12** includes a stabilizing cross-member **14** extended from respective inner walls **32**, **42** of the receiving members **30**, **40**. The stabilizing cross-member **14** includes means for securing **16** thereon, for releasably locking the stabilizing cross-member **14** in an engagement position providing a preferred spaced apart distance between the inner walls **32**, **42** of the receiving members **30**, **40** for retention of the ladder base ends **26**, **28** thereon. The coupling member **12** further includes at least one fixation means **18** including any of a plurality of attachment members positioned proximal of outer side walls **34**, **44** of receiving members **30**, **40**, in order to secure the position of at least one of the receiving members **30**, **40** relative to the supporting surface **80**. An embodiment illustrated in Figure 4 includes two fixation members **18**, **18'** positioned against both outer side walls **34**, **44**, thereby securing the coupling member **12** from lateral movement and sliding movement to maintain secure footing of ladder base ends **26**, **28** retained therein.

[0015] One embodiment of the coupling member **12** is illustrated in Figures 1 - 5A and 5B, and includes a pair of generally parallel receiving members **30**, **40**, also identified herein as slotted members. A first receiving member **30** is illustrated in Figure 2. A like-configured, mirror-image second receiving member

40 is illustrated in Figures 1 and 4. Each receiving member **30**, **40** includes an elongated slot opening therein, having respective open ends **30'"**, **40'"** opposed from guide walls **36**, **46**, and having a slot opening of sufficient width **30'**, **40'** for removable insertion of respective ladder base ends **26**, **28** (see Fig. 1). The slot opening is sized to accept any of a plurality of ladder base ends **26**, **28**, and includes slot opening widths of between about two inches to about four inches. A length of each elongated slot opening is between about four inches to about eight inches. Each elongated slot opening is bounded by respective base surfaces **30"**, **40"** from which extend respective inner side walls **32**, **42**, outer side walls **34**, **44**, and the guide walls **36**, **46**. In one embodiment, the guide walls **36**, **46** are minimally angled toward respective open ends **30'"**, **40'"** at angles of about 75 degrees to about 90 degrees from respective base surfaces **30"**, **40"**. Respective corner junctions are formed with the respective inner side walls **32**, **42** and outer side walls **34**, **44** to form a guide wall channeling each respective ladder base end to be securely positioned against receiving base surfaces **30"**, **40"**. In the embodiments illustrated in Figures 1 - 3 and 5A - 5B, each guide wall **36**, **46** is angled toward respective open ends **30'"**, **40'"** at an angle **38** of between about 65 degrees to about 75 degrees from the respective base surfaces **30"**, **40"**. The guide wall angle **38**, **48** is selected to conform to safety standards which provide limits for a maximum and minimum angle for a leaning ladder (see 29 C.F.R. §1926.1053, Ladders), to minimize the potential for "kick-out" of each ladder base end **26**, **28**. When inserted into respective first and second receiving slot openings having sufficient widths **30'**, **40'**, each ladder base end **26**, **28** is channeled against the angled guide walls **36**, **46** at an angle selected to be within a range of preferred ladder angles relative to the supporting surface **80**, as suggested by

occupational safety standards and workplace practices utilized by those skilled in the art for safe use of non-self-supporting ladders (i.e. leaning ladders).

[0016] For the embodiment illustrated in Figures 1, 4, 5A and 5B, a stabilizing cross-member **14** extends between the receiving members **30**, **40**. The cross-member **14** includes a slidably adjustable cross-member unit **50** including an outer slide tube **52** axially aligned to accept an inner slide tube **56**. The outer slide tube **52** extends from a base end **52'** attached to a junction plate **50'** connected to the second inner side wall **42** in a position proximal of the second base wall **46**. The outer slide tube **52** is hollow, having a circular cross-section or preferably having an "U" shaped cross-section, and having a longitudinal slot **52'"** therein. Outer slide tube **52** extends to an open distal end **52"**, into which is inserted the smaller diameter inner tube **56** having a distal end **56"** of sufficient size to be slidably inserted into the interior length of the outer slide tube **52**. The inner slide tube **56** is also hollow, having a circular cross-section or preferably having an "U" shaped cross-section, and having an inner tube longitudinal slot **56'"** that is aligned with the outer tube longitudinal slot **52'"**. The inner slide tube **56** includes a base end **56'** junction with the first inner side wall **32** in a position proximal of the first guide wall **36**. The inner slide tube distal end **56"** is slidably inserted a variable depth into outer slide tube **52** to allow first and second receiving members **30**, **40** to be adjustably positioned apart at any of a plurality of width separations, thereby allowing the receiving members to receive and retain any of a plurality of ladder widths.

[0017] The depth of insertion of inner slide tube **56** into outer slide tube **52** is adjustable and temporarily lockable in a plurality of positions by a securing

means **16** illustrated in Figures 4A, 4B and 9. The securing means **16** includes a clamp assembly **58** having generally at least three interconnecting segments that allow for the clamp assembly **58** to be slidably mounted along the length of the outer tube slot **52'''** and the aligned inner tube slot **56'''**. An outer clamping member **58'** is generally rectangular, including a centrally disposed bore hole **59** (see Figs. 4B) therethrough. The outer clamping member **58'** is sized in width to be slidably disposed against the slot sides of the outer tube slot **52'''**. A screw bolt **58''''** is inserted through the outer clamping member **58'** and through the bore hole **59**. The screw bolt **58''''** includes screw threads disposed along the bolt length, and includes either a slot head (see Figs. 3 and 10), or a wing nut head **58'''** on an outer portion extended from the outer tube slot **52'''**. The length of the screw bolt **58''''** is inserted through the outer clamping member **58'**, and into an aligned inner clamping member **58"** that is positioned within the inner tube slot **56'''**. The inner clamping member **58"** includes a width slightly greater than the width of separation of the parallel sides of the inner tube slot **56'''**. The screw bolt **58''''** is inserted through the outer clamping member bore hole **59** and into the aligned central disposed inner bore hole **59'** through the inner clamping member **58"**. Due to reverse threading within the inner bore hole **59'** in the inner clamping member **58"**, when the wing nut attachment to the screw bolt **58''''** is rotatably inserted through respective clamping member bore holes **59**, **59'** in aligned clamping members **58'**, **58"**, the inner clamping member **58"** is forced into engagement against interior surfaces of the inner tube slot **56'''**. Further, the outer clamping member **58'** is forced into frictional engagement against the outer tube surfaces proximal of the outer tube slot **52'''**, thereby temporarily securing the inner slide tube **56** and outer slide tube **52** in a locked position relative to

each other. The screw bolt **58""** is reversibly rotated by the user when the ladder **20** is not utilized for load-bearing activities, with the outer clamping member **58'** is moved apart from the inner clamping member **58"**, thereby allowing the securing means **16** to slide along the aligned inner tube slot **56'"** and outer tube slot **52'"**. The inner clamping member **58"** is retained within the inner slide tube **56** in an un-tensioned position for sliding adjustment of the inner slide tube **56** relative to outer slide tube **52** to attain a preferred distance of separation **54** between ladder base ends **26**, **28** in respective first receiving member **30** and second receiving member **40**. One skilled in the art will recognize that similar clamp assemblies or securing clips can be utilized for temporarily securing the inner slide tube **56** in a fixed position within the outer slide tube **52**. The positioning of the aligned inner tube slot **56'"** and the outer tube slot **52'"** can include a forward orientation (see Fig. 3), an upwardly orientation (see Figs. 4A and 6), or an alternative orientation that allows an operator to readily manipulate the slot head (see Figs. 3 and 10), or the wing nut head **58'"** (see Fig. 4A, 7, 9 and 11) of clamp assembly **58**.

[0018] The ladder safe base **10** further includes at least one fixation means **18** including at least one of a plurality of attachment and fixation members **70**, **70'** and associated receiving sleeves **60**, **60'** (see Figs. 1 - 5B). The fixation means **18** allows a user to position the ladder safe base **10** in a generally level orientation regardless of the slope of an uneven supporting surface, and allows securing of one or both receiving members **30**, **40** in a fixed position against the supporting surface **80** before or after positioning the ladder base ends **26**, **28** therein. The fixation means **18** operates in association with the sleeve brackets **60**, **60'** attached to each outer side wall **34**, **44** of the receiving members **30**, **40**. The

fixation means **18** includes any of a plurality of configurations including elongated fixation members **70**, **70"** that are each slidably insertable through outer positioned sleeve brackets **60**, **60'**, or slidably insertable through alternatively positioned sleeve brackets **160**, **170** (see Figs. 11 and 12). In one embodiment, the fixation member **70** having a flattened contacting end **72** is slidably inserted through either sleeve bracket **60** or **60'**. The contacting end **72** is inserted a sufficient depth through either sleeve bracket **60** or **60'** to allow positioning of the contacting end **72** past the distal end of each sleeve bracket **60** or **60'**, and against a generally impenetrable supporting surface (i.e. concrete, asphalt shingles, metal surfaces). An alternative embodiment includes a pointed contacting end **72** inserted into the supporting surface if penetrable (i.e. soil, gravel, asphalt or wood) (see Figs. 6 and 8).

[0019] In one embodiment, two fixation members **70**, **70'** are utilized for slidably inserting through the interior channels of each sleeve bracket **60**, **60'** to allow adjustment of the heights of each sleeve bracket **60**, **60'** relative to the supporting surface **80**. An additional embodiment of the sleeve brackets includes each having an angled interior channel **62**, **62'** that allows the fixation members **70**, **70'** to be guided at an angle for contact by the contacting end **72**, **72'** against, or into the supporting surface **80** (see Fig. 2). The insertion depth **68** of each fixation member **70**, **70'** through each sleeve bracket **60**, **60'** and the angle of contact and/or insertion into the supporting surface **80** can be aligned (see Figs. 1 and 2) with the angle of the respective ladder base ends **26**, **28** inserted into receiving members **30**, **40**. Alternatively, the sleeve brackets **60**, **60'** can be positioned to a substantially vertical orientation or a reverse angled orientation

relative to the angle of the respective ladder base ends **26**, **28** inserted into receiving members **30**, **40**. A preferred angle of orientation for the ladder and base ends **26**, **28**, each guide wall **36**, **36'**, and fixation members **70**, **70'**, is between about 65 degrees to about 75 degrees.

[0020] Each fixation member **70**, **70'** includes a plurality of paired bore holes **74**, **74'** aligned proximal to the length axis of each fixation member **70**, **70'**, **70"**, **70'"** (see Figs. 5A and 5B), with the paired holes generally aligned longitudinally along each member. When a preferred depth of insertion **68**, **68'** is attained into the first sleeve **60** and/or second sleeve **60'**, each fixation member **70**, **70'** is retained by insertion laterally therethrough of at least one retaining or connecting member **64** or **76**. The fixation members **70**, **70'** are retained in the interior channels **62**, **62'** of respective sleeves **60**, **60'** at the same insertion depth for level supporting surfaces, or at different insertion depths for uneven supporting surfaces. A first and second insertion depth are separately maintained by laterally inserting at least one retaining or connecting member such as cotter pins **64**, **64'** or bolts **76**, **76'**, through an outer bore hole **60"**, **60'"** in each outer wall of sleeves **60**, **60'**, and extending the retaining or connecting member through an appropriately aligned bore hole **74**, **74'** (see Fig. 3). The respective cotter pins **64**, **64'** are connected by chain linkages **66**, **66'** to a lower portion of either outer wall **34**, **44** to minimize loss during use of the ladder safe base **10**. If utilized, the bolts **76**, **76'** are retained through respective holes by wing nuts **78**, **78'** or other easily manipulated connectors known to those skilled in the art. In order to temporarily restrain each fixation member **70**, **70'** within respective sleeve brackets **60**, **60'**, each cotter pin **64** or bolt **76** is further extended through an appropriately aligned

bore hole **34'** through first outer wall **34** or a similarly aligned bore hole **44'** in second outer wall **44**, of respective receiving members **30**, **40**. Each fixation member **70**, **70'** is independently extended or retracted through the interior channel of either sleeve brackets **60**, **60'** to attain different insertion depths **68**, **68'** and to position respective contacting ends **72**, **72'** at different heights against an uneven supporting surface **80** with leveling of receiving members **30**, **40** for securing the ladder base ends **26**, **28** inserted in the receiving members **30**, **40**.

[0021] Alternative embodiments for the receiving members **30**, **40** and fixation members **70**, **70'** include retaining devices such as suction cups **82**, **82'** attached by connector chains **84**, **84'**, or like-flexible connectors, and positioned proximal of open ends **30'"**, **40'"** (see Fig. 7), and/or proximal of each base of respective guide walls **36**, **46** (not shown). The suction cups **82**, **82'** are utilized to assist in securing receiving members **30**, **40** to a flat, potentially slippery surface such as tile, finished concrete, wood flooring or similar supporting surfaces. Each suction cup **82**, **82'** is releasably positioned against either open end, or against a guide wall end of base surfaces **30"** and **40"**. An adhesive can be utilized with suction cups **82**, **82'** to further minimize movement of receiving members **30**, **40** during load-bearing activities on a ladder with base ends **26**, **28** positioned in the ladder safe base **10**. For an uneven supporting surface **80** (see Figs. 6 and 8), the ladder safe base **10** includes fixation members **60**, **60'** having pivoting brackets **86**, **86'** that are attached to end portions of each fixation member **60**, **60'** proximal of contacting ends **72**, **72'**. Each bracket **86**, **86'** includes distally disposed foot-pads having non-skid pads **86"**, **86'"** thereon. The brackets **86**, **86'** are pivotably attached by a connector member such as a cotter pin or a threaded length of bolt

connectors **76**, **76'** extended through respective paired bore holes **74**, **74'** in fixation members **70**, **70'**. The fixation members **70**, **70'** are slidably inserted through channels **62**, **62'** of sleeves **60**, **60'**. The brackets **86**, **86'** are positionable at various angles by tightening respective bolt connectors **76**, **76'** and associated attaching locking nuts and/or wing nuts **78**, to attain a firm footing of foot-pads **86"**, **86'"** against an uneven supporting surface **80** (see Fig. 6).

[0022] Positioning of the ladder safe base 10 with alternative fixation members **70"**, **70'"** is illustrated in Figure 8 for use on unstable and uneven supporting surfaces **80'**. Respective contacting ends **72"**, **72'"** having tapered ends for piercing at least the upper portion of the supporting surface **80**. A pair of releasably attachable stop members **90**, **90'**, each having a lower ledge with a non-skid pad **92**, **92'** thereon, are swivelingly attached by connecting members **94**, **94'** to any one of the pair of side holes **74**, **74'** aligned axially along a length of either fixation member **70"**, **70'"** . The swiveling connecting members **94**, **94'** are attached with bolts **96**, **96'** and wing nuts **78**, **78'** or similar connectors known to those skilled in the art. The swiveling connecting members **94**, **94'** can be attached at different heights above each contacting end **72"**, **72'"**. The fixation members **70"**, **70'"** are temporarily restrained within respective sleeve brackets **60**, **60'** by insertion therein of either a cotter pin **64** or bolt **76** through aligned sleeve hole **60"**, **60'"** aligned with respective bore holes **74**, **74'** and further aligned with respective bore hole **34'** through first outer wall **34** or a bore hole **44'** in second outer wall **44**. Connecting members **94**, **94'** such as cotter pins or bolts having threads for accepting a wing nut **78** thereon, are utilized to position stop members **90**, **90'** at an appropriate height relative to the length of each fixation member in

order to restrain one or both fixation members **70"**, **70'"** from being driven too deeply into the supporting surface **80** (see Figs. 5A and 6). Further, with adjustments to the height of attachment of each connecting member **94**, **94'** to respective fixation members **70"**, **70'"**, either receiving member **30** or **40** can be elevated relative to respective fixation members **70"**, **70'"** inserted through sleeves **60**, **60'**, thereby maintaining a generally level orientation for receiving members **30**, **40** relative to supporting surfaces **80**, **80'**. Swivel connectors **94**, **94'** are individually swivelled to position stop members **90**, **90'** to adjust to the slope and contour of the supporting surfaces **80**, **80'**.

[0023] An additional embodiment of a ladder safe base **110** is illustrated in Figure 10 and includes a pair of arm members **130**, **140**, each lacking an inner side wall **32**, **42**, therefore a ladder selected to have any width configuration for each side rail base end **26**, **28**, or having a solid base (not shown), is readily insertable between the arm members **130**, **140**. The ladder safe base **110** includes the components utilized by the ladder safe base **10** illustrated in Figure 1 - 2, but with partial inner walls **132**, **142**, and with base surfaces **30"**, **40"**. The ladder safe base **110** also includes laterally-oriented elongated slots in the stabilizing cross-member **50** with a securing means **58** therein as illustrated in Figure 4B. The first cross-member slide tube **52** is attached to a base flange **50'** positioned against partial inner wall **142**, and proximal of guide wall **146**. A second cross-member **56** is attached to base flange **50"** (not shown) against partial inner wall **132**. Each fixation member **70**, **70'** is slidably insertable through respective sleeve members **60**, **60'**.

[0024] An alternative ladder safe base **120** is illustrated in Figure 11,

including a pair of arm members **130**, **140**, each lacking an inner side wall but including outer side walls **132**, **142**. Outer positioned sleeves **60**, **60'** are utilized for insertion therethrough of any of fixation members **70**, **70'**, **70"**, **70'"**. The alternative ladder safe base **120** includes the stabilizing cross-member **50** and securing means **58** as illustrated in Figures. 4A, 4B and 9. Outer side walls **132**, **142** are positioned a spaced apart distance to contain a ladder having a continuous base end or a low connecting rung 20' between side walls **132**, **142**.

[0025] An additional alternative ladder safe base **150** is illustrated in Figure 12 and includes a pair of arm members **160**, **170**, each lacking an outer side wall, but including inner side walls **162**, **172**. Interior of each side wall **162**, **172** is attached inner sleeves **60"**, **60'"** (see Fig. 12), through which any of the fixation members **70**, **70'**, **70"**, **70'"** are slidably insertable. The alternative embodiment includes the stabilizing cross-member **50** and securing means **58** as illustrated in Figures. 4A, 4B and 9. The inner side walls **162**, **172** are positioned with ladder base ends **26**, **28** outboard of each inner side wall, thereby securing wide ladder base ends having broad, spaced apart side rails **22**, **24** and/or having wide base ends that are readily positioned outboards of inner side walls **162**, **172**.

[0026] A method for utilization of a ladder safe base **10** or **110**, is provided herein for stabilizing ladder base ends **26**, **28** in angled contact against any of a plurality of supporting surfaces that may be uneven and/or unstable. The steps of the method include a step of providing a ladder safe base **10** or **110** including first and second receiving members **30**, **40** interconnected by a stabilizing member **14** slidably adjustable therebetween. A step of positioning the receiving members **30**, **40** includes adjusting the width between the receiving members **30**, **40** by

manipulating the stabilizing member **14** and the securing means **16**, thereby accommodating a leaning ladder having base ends **26**, **28** inserted into the respective receiving members **30**, **40**. A step of leveling the ladder safe base **10** includes inserting and extending one or both of fixation members **70**, **70'** through the respective sleeves **60**, **60'** of the receiving members **30**, **40**. The step of leveling is repeatable to obtain various heights of respective receiving members **30**, **40** above an uneven supporting surface **80** by manipulating respective connector means for each receiving member **30**, **40**, including one or more retaining or connecting members such as cotter pins **64**, **64'**, and/or connector bolts **76**,' secured by wing nut connectors **78**, **78'**.

[0027] A step of inserting includes sliding the ladder base ends **26**, **28** into respective first and second slot opening widths **30'**, **40'** of each receiving members **30**, **40** without having to couple or decouple additional attachments to the ladder base ends **26**, **28**. Further, the step of inserting is completed without readjusting the ladder base pads, if the ladder includes base pads pivotably attached to respective ladder base ends **26**, **28**, due to the ample slot opening widths provided by the receiving members **30**, **40**. A step of repositioning the ladder safe base **10** and ladder **20** is rapidly completed by sliding and removing the receiving members **30**, **40** from the angled ladder base ends **26**, **28** in a first angled position when the ladder **20** is temporarily not bearing significant weight thereon. The receiving members **30**, **40** and slidably adjustable cross-member **14** are repositioned to an appropriate second location, and the step of leveling is repeated for the receiving members **30**, **40**, before the ladder **20** is moved for slidingly positioning the ladder base ends **26**, **28** into the ladder safe base **10** in the second location. The ladder

20 is moved to the second location and the ladder base ends **26**, **28** are slidably inserted into respective receiving members **30**, **40** with the adjustable cross-member **14** secured, if needed.

[0028] An alternative step of repositioning includes positioning a second, like-configured ladder safe base **10** in an appropriate second location on a supporting surface **80**, removing the ladder base ends **26**, **28** from the respective receiving members **30**, **40**, and sliding the ladder base ends **26**, **28** into first and second slot opening widths **30'**, **40'** of respective receiving members **30**, **40** of the second, like-configured ladder safe base **10**. No additional ladder base connectors are required for safe securing of the ladder base ends with the method described hereinabove, due to the lack of a need for any additional ladder base connectors for securing the ladder safe base **10** or **110** thereto. The ladder safe base **10** is repositioned to a second location with only the step of leveling being repeated, if needed, due to a change in elevation of the supporting surface **80**. The user of the ladder safe base **10** or **110** benefits from improved efficiency in moving a ladder **20** from a first location to a second and additional locations, while having the ladder base ends **26**, **28** secured from lateral shifting and "kick-out" relative to an unstable and/or uneven supporting surface 80.

[0029] From the foregoing description, it will be recognized by those skilled in the art that a ladder safe base **10**, **110** is disclosed for releasably connecting a coupling member **12** to secure therein the respective base ends **26**, **28** of a ladder **20**, thereby stabilizing the base ends disposed in angled contact against any of a plurality of supporting surfaces presenting uneven and/or unstable surfaces. The disclosed ladder safe base **10** improves the stability and safety of the junction of

the ladder base end with the supporting surface **80** during the occurrence of a load-bearing activity on the ladder **20**. Further, the method for utilization of the ladder safe base **10** includes steps providing for movement of a first coupling member from a first position to a second position without moving the ladder until it can be repositioned and stabilized within the repositioned first coupling member. An alternative method for utilization further provides a like-configured second coupling member that is positioned and leveled in a second location, with resulting movement of the ladder from a first location secured within a first coupling member, to a second location secured within a second coupling member, while maximizing the efficiency of the method for utilization during the operation of repositioning the ladder.

[0030] While the present invention has been illustrated by description of several embodiments and while the illustrative embodiments have been described in considerable detail, it is not the intention of the applicant to restrict or in any way limit the scope of the appended claims to such detail. Additional advantages and modifications will readily appear to those skilled in the art. The invention in its broader aspects is therefore not limited to the specific details, representative apparatus and methods, and illustrative examples shown and described. Accordingly, departures may be made from such details without departing from the spirit or scope of applicant's general inventive concept.